



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,199	04/13/2004	Akio Saiki	5000-5167	4036
27123 7590 12/28/2007 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER PARVINI, PEGAH	
			ART UNIT 1793	PAPER NUMBER
			NOTIFICATION DATE 12/28/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTOPatentCommunications@Morganfinnegan.com
Shopkins@Morganfinnegan.com
jmedina@Morganfinnegan.com

Office Action Summary

Application No.

10/823,199

Applicant(s)

SAIKI ET AL.

Examiner

Pegah Parvini

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 7, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,500,537 to Araki et al. in view of JP 01255798 (1989-343901).
3. Regarding claims 1, 15 and 19, Araki et al. teach a composition used between sliding parts such as fuser roller, pressure roller, charging roller, etc. which comprises polyamide imide or polyetherimide resin, a fluorine-containing polymer such as PTFE (polytetrafluoroethylene) which provides good intercoat adhesion strength, additives such as titanium oxide which improve said composition, and silane coupling agents which not only improves mechanical properties but also forms a strong bridge between the both organic and inorganic elements used (column 6, lines 19-20, 33-41, 64-67; column 7, lines 1-15; column 13, lines 53-56; column 14, lines 45-50, 55-56; column 15, lines 24-29, 42-44; column 17, 13-14; column 18, lines 9-67; column 22, lines 17-23). Furthermore, the reference discloses that the amount of the fluorine-containing polymer, although may be between 5% to 70% by weight, generally depends on the intended coating, thickness, concentration, and viscosity of a coating composition, coating

method, etc. (column 14, lines 18-22). Moreover, the reference discloses that the amount of the coupling agent added is from 1 to 50 parts by weight (which is wide range) of the fluorine-containing material (column 17, lines 42-44).

Araki et al., although disclosing the use of titanium oxide, does not expressly disclose the amount of titanium oxide used.

JP01255798 patent disclose a composition used for sliding parts containing a thermoplastic resin such as polyamide resin, a slide improver such as a fluoro resin, and 5-50 wt.% of titania having a diameter of 0.2-1 μm (Abstract; pages 1-3).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Araki et al. in order to include an amount of titania (and particle size) as that taught by JP 01255798 motivated by the fact that titania reduces friction coefficient and wear resistance (JP, page 4, last paragraph).

4. Although Araki et al. do not specifically disclose an amount of polytetrafluoroethylene based on the polyimide or polyamide imide used, the reference expressly disclose that the amount of the fluorine-containing polymer such as PTFE used in sliding parts composition depends on many factors including intended coating thickness, concentrations and viscosity of a coating composition, coating method, and more; thus, it would have been obvious to have used an amount of from 15% by mass to 100% by mass of PTFE based on the 100% mass of the binder resin.

5. Even though Araki et al. do not specifically disclose an amount of the silane coupling agent based on the binder resin, the reference discloses a relatively wide range, 1-50 parts by weight, based on the weight of PTFE. Since the amount of PTFE may be any desired and appropriate value based on the factors described and in Araki et al., it would have been obvious to have utilize an appropriate amount of coupling agent to obtain desired results. Also, considering 1-50 parts by weight to coupling agent based on PTFE, if taking 5-70 wt% of PTFE, an amount of from 0.05 to 35 wt% of coupling agent is obtained.

6. Regarding claims 2, 4, and 16, JP 01255798 disclose using an amount of 5-50 wt% of titania having diameter of from 0.2-1 microns in a composition used for sliding parts as described in details in above (Abstract).

Although the reference does not expressly disclose an amount of titania based on the amount of the binder resin used, the reference discloses a range which is wide enough to have overlapping ranges with the claims of the instant application regarding the content of titania motivated by the fact that titania reduces friction coefficient and wear resistance as described in details above.

7. Regarding claims 3 and 17, as described in details above, Araki et al. disclose that the amount of PTFE used in the compositions for sliding parts depends on the intended coating, thickness, concentration and viscosity of a coating composition, coating method, etc. (column 14, lines 18-23).

8. Regarding claims 7 and 18, Araki et al., as discussed in details above, disclose an amount of from 1 to 50 parts by weight of coupling agent based on PTFE which content may be varied appropriately depending on intended coating thickness, concentrations and viscosity of a coating composition, coating method, and more (column 17, lines 42-44; column 14, lines 18-23).

Response to Amendment

9. Applicants' amendments to claims 1, 3, 4, and 7, filed October 11, 2007, pages 2-3, are acknowledged. However, said amendments do not place the application in condition for allowance.

10. Applicants' amendment to the instant application by cancelling claims 5-6 and 8-14, filed October 11, 2007, pages 2-3, is acknowledged.

11. Applicants' amendments to the instant application by inserting the new claims 15-19, filed October 11, 2007, pages 2-3, are acknowledged. However, said amendments do not place the application in condition for allowance.

Response to Arguments

12. Applicant's arguments filed October 11, 2007 have been fully considered but they are not persuasive. However, a new ground of rejection, as set forth above, has been presented as a result of the amended claims and newly submitted claims.

13. Applicants have argued that, regarding the previous rejection, that the rejection did not cite where the motivation came from.

The Examiner, respectfully, submits that as noted in the previous Office Action (last paragraph of page 3), the motivation for combining Mori and Araki et al. to utilize a coupling agent was because coupling agents act on an interface between an organic and inorganic element to form a strong bridge between the two elements; the previous rejection pointed to Araki et al., column 18, lines 9-12 (last line of page 3).

14. Applicants have argued that Mori and Araki et al. are not from the same field of art.

The Examiner, respectfully, disagrees and submits that both prior art clearly disclose that they relate to sliding parts (Araki et al., column 6, lines 64-67; Mori, Abstract, column 1, lines 28-31).

15. Applicants have argued that Mori et al. do not disclose a binder resin which is polyimide or polyamide-imide along with a silane coupling agent.

The Examiner, respectfully, submits that, as also noted by the Applicants, the claim has been amended; thus, a new rejection under 103(a) has presented as set forth above.

16. Applicants have argued that Yamazaki et al. is drawn to a magnetic recording medium comprising a support which has a magnetic layer onto it.

The Examiner, respectfully, submits that the magnetic layer is considered a coating as the claims of the instant application are, in fact, drawn to a type of coating as well. The phrase of "for use in sliding parts" is an intended use and do not add any patentable weight to the claims.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 4,724,251 to Rock.

US Patent No. 4,626,365 to Mori.

US Patent No. 6,790,522 to Yamazaki et al.

US Patent No. 6,627,298 to Koyama et al.

US Patent No. 6,524,661 to Bagala et al.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegah Parvini whose telephone number is 571-272-2639. The examiner can normally be reached on Monday to Friday 8:00am-4:30pm.

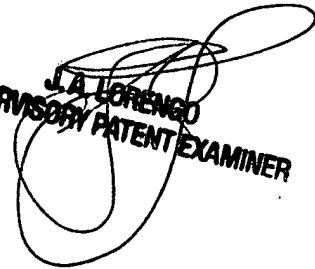
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/823,199
Art Unit: 1793

Page 9

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PP


J.A. LORENZO
SUPERVISOR PATENT EXAMINER